

Appl. No.: 10/629,397
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Amendments to the Specification

[0041] — ~~Figure 9A illustrates a scatter-free optical fluoride crystal 20 where a scatter inspection light 44 is able to transmit through the crystal as an uninhibited light beam.~~

[0042] — ~~Figure 9B shows an optical fluoride crystal with scatter where a scatter inspection light 44 is scattered and progressively dispersed along the length of the beam path. Preferably the scatter inspection light is a collimated laser beam.~~

[0043] — Figure 9A 9C is a color photograph under normal lighting of a calcium fluoride disk blank.

[0044] — Figure 9B 9D is a color photograph showing a red laser beam scatter inspection light detecting scatter in a calcium fluoride disk blank. In Figure 9D the normal lighting of the calcium fluoride blank of Figure 9C has been turned off. In a scatter-free calcium fluoride crystal disk blank one would not see any red streak in the crystal since there would be nothing to reflect or scatter the light in the middle of the crystal. In a preferred embodiment the method includes transmitting a collimated laser light beam scatter inspection light into a grown calcium fluoride crystal 20 and inspecting the crystal for an observable level of scatter to provide a scatter-free calcium fluoride lens blank with a chlorine concentration less than 0.2 ppm Cl by weight. Preferably scatter-free calcium fluoride crystal 20 has a chlorine concentration \leq 0.2 ppm and a 193 nm transmission $>$ 99%/cm. Preferably scatter-free calcium fluoride crystal 20 has a chlorine content \leq 0.2 ppm and a 157 nm transmission $>$ 97%/cm., preferably $>$ 98%/cm transmission, and preferably $>$ 99%/cm transmission.